

Orion ECLSS/Suit System – Intermediate Pressure Integrated Suit Test

Richard A. Barido¹

The Intermediate Pressure Integrated Suit Test (IPIST) phase of the integrated system testing of the Orion Vehicle Atmosphere Revitalization System (ARS) technology was conducted for the Multipurpose Crew Vehicle (MPCV) Program within the National Aeronautics and Space Administration (NASA) Exploration Systems Mission Directorate. This test was performed in the eleven-foot human-rated vacuum chamber at the NASA Johnson Space Center by the Crew and Thermal Systems Division. This testing is the second phase of suit loop testing to demonstrate the viability of the Environmental Control and Life Support System (ECLSS) being developed for Orion. The IPIST configuration consisted of development hardware that included the CAMRAS, air revitalization loop fan and suit loop regulator. Two test subjects were in pressure suits at varying suit pressures. Follow-on testing, to be conducted in 2014, will utilize the same hardware with human test subjects in pressure suits at vacuum. This paper will discuss the results and findings of IPIST and will also discuss future testing.

¹ Orion ECLS Subsystem Manager for Air Revitalization and Suit Loop Systems, 2101 NASA Parkway, Mail Stop: EC3.